

## ABSTRACT OF THE DISCLOSURE

Holographic data is stored in a cylindrical crystal by directing a signal beam with data encoded therewith axially through an end face of the crystal, which signal beam interferes with a reference beam directed radially through the cylindrical side surface of the crystal. By rotating the crystal about its axis, numerous holograms are recorded therein an annular layer and by indexing the crystal axially the annular layers are stacked to further increase the storage capacity of the crystal. The holograms are read from the crystal by focusing a reference beam therethrough in a radial director for diffraction with the stored holograms to produce a defracted reference beam which emerges axially from the crystal. The diffracted reference beam is then read with a detector in the form of a CCD camera.